WASHINGTON STATE DEPARTMENT OF ECOLOGY

What Does No Net Loss Mean in the 2003 SMA Guidelines? *(June 2004)*

And How is it Meant to be Implemented?

Within the guidelines the Shoreline Management Act's policy on protection of the environmental resources of the shoreline is stated as a requirement to achieve "no net loss of ecological functions necessary to sustain shoreline natural resources" as a result of use and development of the shoreline under the new local shoreline master programs that will be developed and adopted over the next few years. This relatively simple phrase poses a number of questions that crafters of SMPs must address and Ecology must be prepared to both assist in the local effort to address them as well as make a determination of compliance once a local government submits the updated program. The purpose of this document is to provide the basic level of explanation of the concept and its implementation.

Legal and policy basis:

The guidelines establish that the foundation of the "no net loss" requirement is the policy of the SMA.

> **WAC 173-26-176 General policy goals of the act and guidelines for shorelines of the state.**
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> (1) The guidelines are designed to assist local governments in developing, adopting, and amending master programs that are consistent with the policy and provisions of the act. Thus, the policy goals of the act are the policy goals of the guidelines. The policy goals of the act are derived from the policy statement of RCW 90.58.020 and the description of the elements to be included in master programs under RCW 90.58.100.
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> (2) The policy goals for the management of shorelines harbor potential for conflict. The act recognizes that the shorelines and the waters they encompass are "among the most valuable and fragile" of the state's natural resources. They are valuable for economically productive industrial and commercial uses, recreation, navigation, residential amenity, scientific research and education. They are fragile because they depend upon balanced physical, biological, and chemical systems that may be adversely altered by natural forces (earthquakes, volcanic eruptions, landslides, storms, droughts, floods) and human conduct (industrial, commercial, residential, recreation, navigational). Unbridled use of shorelines ultimately could destroy their utility and value. The prohibition of all use of shorelines also could eliminate their human utility and value. Thus, the policy goals of the act relate both to utilization and protection of the extremely valuable and vulnerable shoreline resources of the state. The act calls for the accommodation of "all reasonable and appropriate uses" consistent with "protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life" and consistent with "public rights of navigation." The act's policy of achieving both shoreline utilization and protection is reflected in the provision that

"permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, in so far as practical, any resultant damage to the ecology and environment of the shoreline area and the public's use of the water." RCW 90.58.020.

(3) The act's policy of protecting ecological functions, fostering reasonable utilization and maintaining the public right of navigation and corollary uses encompasses the following general policy goals for shorelines of the state. The statement of each policy goal is followed by the statutory language from which the policy goal is derived.

(c) Protection and restoration of the ecological functions of shoreline natural resources.

RCW 90.58.020:

"*The legislature finds that the shorelines of the state are among the most valuable and fragile of its natural resources and that there is great concern throughout the state relating to their utilization protection, restoration, and preservation.*"

"*This policy contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life.*"

"*To this end uses shall be preferred which are consistent with the control of pollution and prevention of damage to the natural environment.*"

"*Permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area. . .*"

RCW 90.58.100:

"*(2) The master programs shall include, when appropriate, the following:*

(f) A conservation element for the preservation of natural resources, including but not limited to scenic vistas, aesthetics, and vital estuarine areas for fisheries and wildlife protection;

(g) An historic, cultural, scientific, and educational element for the protection and restoration of buildings, sites, and areas having historic, cultural, scientific, or educational values;. . ."

Taken as a whole these provisions say that the policy of the SMA is that, while certain uses and development are appropriate and necessary and must be provided for and even fostered, all uses and development must be carried out in a manner that does not degrade the environmental resources of the shoreline. In other words, no uses or development supercede the requirement for environmental protection. Or, as stated in the Guidelines:

WAC 173-26-186 Governing principles of the guidelines.

(8) Through numerous references to and emphasis on the maintenance, protection, restoration, and preservation of "fragile" shoreline "natural resources," "public health," "the land and its vegetation and wildlife," "the waters and their aquatic life," "ecology," and "environment," the act makes protection of the shoreline environment an essential statewide policy goal consistent with the other policy goals of the act. It is recognized

that shoreline ecological functions may be impaired not only by shoreline development subject to the substantial development permit requirement of the act but also by past actions, unregulated activities, and development that is exempt from the act's permit requirements.

Scope and Intent of the phrase "no net loss" as used in the guidelines:

Given the policy of the SMA, the question that the guidelines had to answer was how to translate this general policy into a meaningful and useful standard. The history of the SMA indicates that over time and cumulatively, use and development of the shoreline under the 1972 guidelines and master programs adopted pursuant to them, has resulted in progressive loss of shoreline resources and thereby these programs have not effectively implemented the policy of the SMA. However, this is not to say that nothing has been accomplished. Use and development is significantly different today than it was prior to the Act. The changes are not all attributable to the SMA by any means but it certainly influenced where and how development occurs in a positive manner from an environmental perspective.

The failure is not specific, it is general, the overall effect of many decisions. Traced back to the guidelines, it is essentially a failure to set a bright line. The general policies for protection of the shoreline in the 1972 guidelines were insufficient to guide the vast quantity of individual decisions about master program contents and individual developments. A more specific goal and standard was necessary.

Concomitantly, it is obviously necessary to also give weight to the policy of the SMA calling for accommodating and fostering certain uses of the shoreline. Further to be effective and sustainable, any approach must honor the requirements established in case law concerning nexus and proportionality of requirements imposed on development together with other Constitutional limitations on government authority to regulate private property

Thereby, to address all of these interests, the reasonable policy is that use and development that is appropriate and necessary is planned for and accommodated by assuring that the impacts of establishing uses or conducting development are identified and mitigated with a final result that is no worse than maintaining the current level of environmental resource productivity or "no net loss".

Then the question arises as to how this is measured. Shoreline ecosystems are complex and varied such that at the highest level any change may be considered as loss. However, shoreline ecosystems are also resilient and adaptive to change. By their fluid nature, shorelines change. If the components of the environment that create the environmental values are sustained, then the values will be sustained. These components are the ecological functions that work individual and together to create the shoreline environment. Thereby using the “ecological functions necessary to sustain shoreline resources” as the measure assures that the relevant components of any particular shoreline are identified and protected through implementation of the SMP.

Since we usually plan based on less that complete information, the concept of the guidelines is that identification of ecological functions, and of the proper means to address their preservation over time, will be addressed at a minimum of two levels, the plan level and the project level. This is also consistent with the basic system created in the SMA. This allows planning to move forward where information may be incomplete or uncertain while assuring that before actual projects are authorized, the higher level of

detail and certainty will be available for decision making. The keys to assuring that this works to accomplish the goal of no net loss are:

- Acquisition of adequate information at the plan development stage related to the environment and the impacts of development that can be reasonably anticipated.
- Policies and regulations crafted based on the information that adequately address the impacts of common development types that are frequently proposed with a minimum of discretionary process.
- Policies and regulatory systems that address less common types of development proposals and information gaps with a process that assures full evaluation and appropriate mitigation.

This framework is established in the following section of the Guidelines:

> WAC 173-26-201(2)(c) **Protection of ecological functions of the shorelines**. This chapter implements the act's policy on protection of shoreline natural resources through protection and restoration of ecological functions necessary to sustain these natural resources. The concept of ecological functions recognizes that any ecological system is composed of a wide variety of interacting physical, chemical and biological components, that are interdependent in varying degrees and scales, and that produce the landscape and habitats as they exist at any time. Ecological functions are the work performed or role played individually or collectively within ecosystems by these components.
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> And
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> When based on the inventory and analysis requirements and completed consistent with the specific provisions of these guidelines, the master program should ensure that development will be protective of ecological functions necessary to sustain existing shoreline natural resources and meet the standard. The concept of "net" as used herein, recognizes that any development has potential or actual, short-term or long-term impacts and that through application of appropriate development standards and employment of mitigation measures in accordance with the mitigation sequence, those impacts will be addressed in a manner necessary to assure that the end result will not diminish the shoreline resources and values as they currently exist. Where uses or development that impact ecological functions are necessary to achieve other objectives of RCW 90.58.020, master program provisions shall, to the greatest extent feasible, protect existing ecological functions and avoid new impacts to habitat and ecological functions before implementing other measures designed to achieve no net loss of ecological functions.

Methodology

The following sets forth an outline of the process for development of an SMP that meets the no net loss standard.

What do you have now.

The inventory and characterization phases of SMP development as established in **WAC 173-26-201(3)(c) and (d)** are critical to understanding the shoreline resources of a particular jurisdiction. This also establishes the base from which compliance with the standard of "no net loss" is to be measured for purposes of reviewing and approving the SMP. The more information gathered and used at this stage, the greater the level of certainty and predictability that can be built into the SMP.

However it is also understood that availability of information, cost and time constraints may limit the overall level of level of inventory and characterization effort. Further, it is not efficient to gather extremely detailed information about areas that are unlikely to experience much change as a result of use or development under the SMP or to a level of detail as necessary to address types of development that occur infrequently. As established in WAC 173-26-201(2)(e) when development is proposed that can reasonably be expected to have impacts not anticipated and mitigated by the regulations of the SMP, the resources that may be effected must be identified and mitigated sufficiently to assure no net loss of shoreline ecological functions. Under this scenario, no net loss is measured concurrent with the application.

Assessing impacts of plan

In addition to identifying the environmental values of the shoreline, the inventory process identifies the cultural values as well. The uses currently made of the land and the form and character of development that exists are part of the picture that leads to the plan for the future. As a general matter the existing pattern of use and development forms the framework for future plans. Achieving a plan for future development of the shoreline that achieves the standard of no net loss requires evaluation of the aggregate effect of future development which includes both the individual impact of each development and the cumulative impact of all of the development that is likely to occur. The guidelines provide a system for evaluation of the individual impact of specific projects as noted above but also requires that local government evaluate the cumulative impacts of future development in WAC 173-26-186 (8)(d) and WAC 173-26-201(3)(d)(iii) as follows:

> **WAC 173-26-186 (8)**
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> (d) Local master programs shall evaluate and consider cumulative impacts of reasonably foreseeable future development on shoreline ecological functions and other shoreline functions fostered by the policy goals of the act. To ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities. Evaluation of such cumulative impacts should consider:
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> *(i) Current circumstances affecting the shorelines and relevant natural processes;*

(ii) Reasonably foreseeable future development and use of the shoreline; and

(iii) Beneficial effects of any established regulatory programs under other local, state, and federal laws.

It is recognized that methods of determining reasonably foreseeable future development may vary according to local circumstances, including demographic and economic characteristics and the nature and extent of local shorelines.

WAC 173-26-201(3)(d)(iii)

Addressing cumulative impacts in developing master programs. The principle that regulation of development shall achieve no net loss of ecological function requires that master program policies and regulations address the cumulative impacts on shoreline ecological functions that would result from future shoreline development and uses that are reasonably foreseeable from proposed master programs. To comply with the general obligation to assure no net loss of shoreline ecological function, the process of developing the policies and regulations of a shoreline master program requires assessment of how proposed policies and regulations cause and avoid such cumulative impacts.

Evaluating and addressing cumulative impacts shall be consistent with the guiding principle in WAC 173-26-186 (8)(d). An appropriate evaluation of cumulative impacts on ecological functions will consider the factors identified in WAC 173-26-186 (8)(d)(i) through (iii) and the effect on the ecological functions of the shoreline that are caused by unregulated activities, development exempt from permitting, effects such as the incremental impact of residential bulkheads, residential piers, or runoff from newly developed properties. Accordingly, particular attention should be paid to policies and regulations that address platting or subdividing of property, laying of utilities, and mapping of streets that establish a pattern for future development that is to be regulated by the master program.

There are practical limits when evaluating impacts that are prospective and sometimes indirect. Local government should rely on the assistance of state agencies and appropriate parties using evaluation, measurement, estimation, or quantification of impact consistent with the guidance of RCW 90.58.100(1) and WAC 173-26-201 (2)(a). Policies and regulations of a master program are not inconsistent with these guidelines for failing to address cumulative impacts where a purported impact is not susceptible to being addressed using an approach consistent with RCW 90.58.100(1).

Complying with the above guidelines is the way that master program policies and regulations should be developed to assure that the commonly occurring and foreseeable cumulative impacts do not cause a net loss of ecological functions of the shoreline. For such commonly occurring and planned development, policies and regulations should be designed without reliance on an individualized cumulative impacts analysis. Local government shall fairly allocate the burden of addressing cumulative impacts.

For development projects that may have un-anticipatable or uncommon impacts that cannot be reasonably identified at the time of master program development, the

> master program policies and regulations should use the permitting or conditional use permitting processes to ensure that all impacts are addressed and that there is no net loss of ecological function of the shoreline after mitigation.

As indicated, cumulative impact analysis requires, an understanding of the current use pattern and the impacts to shoreline ecological functions that have resulted from it, a reasonable estimation of future development potential and consideration of the beneficial effects of other applicable regulatory systems on future development. From this analysis, alternative scenarios for master program policies and regulations can be developed and the impact of those scenarios evaluated.

The time frame for evaluation of cumulative impacts will vary somewhat depending on the jurisdiction. In all cases, the requirement that the SMP be reviewed and updated every seven years (See RCW 90.58.080 for precise time requirements) appears to be a minimum time period.

Management Measures

WAC 173-26-201(2)(c) says:

> Master programs shall contain policies and regulations that assure, at minimum, no net loss of ecological functions necessary to sustain shoreline natural resources. To achieve this standard while accommodating appropriate and necessary shoreline uses and development, master programs should establish and apply:
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> *o Environment designations with appropriate use and development standards; and*
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> *o Provisions to address the impacts of specific common shoreline uses, development activities and modification actions; and*
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> *o Provisions for the protection of critical areas within the shoreline; and*
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> *o Provisions for mitigation measures and methods to address unanticipated impacts.*

While the guidelines allow alternative approaches that accomplish the same purpose, the above list is the basic and traditional toolbox of an SMP. It is the aggregate effect of all four components that provides for necessary and appropriate development while assuring no net loss of shoreline ecological functions. Each component makes a unique contribution to the system. The use of all of the tools assures that each shoreline development shares a reasonable and appropriate portion of the burden of protecting the shoreline resources from cumulative and individual impacts based on the individual character of the land area in question.

Environment Designations

The environment designation system's division of the jurisdiction into areas for particular types and intensities of development is the basic layer of the system. The current character of an area in comparison to the future character, established in a proposed environment designation for that area, generally determine the range and degree of potential impacts to shoreline ecological functions resulting

from development in that setting. The environment designation system also is intended to assure that, at least at the broadest level, like areas will be treated alike, a basic fairness issue.

WAC 173-26-211 Environment designation system.

(2)(a) Master programs shall contain a system to classify shoreline areas into specific environment designations. This classification system shall be based on the existing use pattern, the biological and physical character of the shoreline, and the goals and aspirations of the community as expressed through comprehensive plans as well as the criteria in this section.

And,

(4) General environment designation provisions.

(a) Requirements. For each environment designation, the shoreline master program shall describe:

(i) Purpose statement. The statement of purpose shall describe the shoreline management objectives of the designation in a manner that distinguishes it from other designations.

(ii) Classification criteria. Clearly stated criteria shall provide the basis for classifying or reclassifying a specific shoreline area with an environment designation.

(iii) Management policies. These policies shall be in sufficient detail to assist in the interpretation of the environment designation regulations and, for jurisdictions planning under chapter 36.70A RCW, to evaluate consistency with the local comprehensive plan.

(iv) Regulations. Environment-specific regulations shall address the following where necessary to account for different shoreline conditions:

(A) Types of shoreline uses permitted, conditionally permitted, and prohibited;

(B) Building or structure height and bulk limits, setbacks, maximum density or minimum frontage requirements, and site development standards; and

(C) Other topics not covered in general use regulations that are necessary to assure implementation of the purpose of the environment designation.

(b) The recommended classification system. The recommended classification system consists of six basic environments: "High-intensity," "shoreline residential," "urban conservancy," "rural conservancy," "natural," and "aquatic" as described in this section and WAC 173-26-211(5). Local governments should assign all shoreline areas an environment designation consistent with the corresponding designation criteria provided for each environment. In delineating environment designations, local government should assure that existing shoreline ecological functions are protected with the proposed pattern and intensity of development. Such designations should also be consistent with policies for restoration of degraded shorelines.

General regulations

WAC 173-26-221 provides guidance on how a master program should address the impact on specific types of shoreline resources with particular environmental or cultural importance that may result from any type of development that is proposed. For purposes of achieving no net loss the provisions on critical areas, flood hazard reduction, vegetation conservation and water quality provide a protective framework for these fundamentally important components of the shoreline ecosystem.

Similarly WAC 173-26-231 provides guidance on how a master program should address certain shoreline modification activities that are commonly occur in association with a variety of shoreline uses in order to achieve the no net loss of shoreline ecological functions standard. This includes shoreline stabilization; piers and docks; fill; breakwaters, jetties, groins and wiers; beach and dunes management; dredging and dredge material management; and habitat and natural systems enhancement projects.

Use regulations

WAC 173-26-241 establishes requirements specific to various categories of uses. While much of the usefulness of this section relates to issues related to meeting other policies of the SMA, the provisions do include guidance designed to address environmental impacts. The provisions for establishing conditional uses are a tool for managing uses with uncertain or variable impacts depending on where and how they might be proposed or for accommodating necessary uses that require careful individual evaluation and mitigation measures. Agriculture, mining and forestry uses are addressed as special cases requiring a unique management approach to achieving the no net loss standard.

Project level mitigation measures

An essential element of any strategy to meet the no net loss standard is likely to be permit level mitigation measures. While master programs should anticipate the impacts of common development types and provide systematic mitigation of those impacts, it is unreasonable to expect that the impacts of every development in every situation can be anticipated and therefore some project level review is an essential part of the strategy for even common development types. It is also unreasonable to expect that a master program can anticipate every possible development that may be proposed or all of the impacts of developments that are anticipated but exactly where and how is not yet known. Further, master programs are typically crafted based on broad scale information and in the absence of sometimes critical information and thereby parcel level inventory and analysis is necessary to fully inform decisions about specific projects and permit level mitigation is then necessary to address new information. Finally, new information about resources, impacts of development, and mitigation measures is being developed continuously and should be incorporated into consideration of individual developments where relevant.

The guidelines address project level mitigation in WAC 173-26-201(2)(e) as follows:

> **Environmental impact mitigation.**
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> (i) To assure no net loss of shoreline ecological functions, master programs shall include provisions that require proposed individual uses and developments to analyze environmental impacts of the proposal and include measures to mitigate

environmental impacts not otherwise avoided or mitigated by compliance with the master program and other applicable regulations. To the extent Washington's State Environmental Policy Act of 1971 (SEPA), chapter 43.21C RCW, is applicable, the analysis of such environmental impacts shall be conducted consistent with the rules implementing SEPA, which also address environmental impact mitigation in WAC 197-11-660 and define mitigation in WAC 197-11-768. Master programs shall indicate that, where required, mitigation measures shall be applied in the following sequence of steps listed in order of priority, with (e)(i)(A) of this subsection being top priority.

(A) Avoiding the impact altogether by not taking a certain action or parts of an action;

(B) Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;

(C) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

(D) Reducing or eliminating the impact over time by preservation and maintenance operations;

(E) Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and

(F) Monitoring the impact and the compensation projects and taking appropriate corrective measures.

(ii) In determining appropriate mitigation measures applicable to shoreline development, lower priority measures shall be applied only where higher priority measures are determined to be infeasible or inapplicable.

Consistent with WAC 173-26-186 (5) and (8), master programs shall also provide direction with regard to mitigation for the impact of the development so that:

(A) Application of the mitigation sequence achieves no net loss of ecological functions for each new development and does not result in required mitigation in excess of that necessary to assure that development will result in no net loss of shoreline ecological functions and not have a significant adverse impact on other shoreline functions fostered by the policy of the act.

(B) When compensatory measures are appropriate pursuant to the mitigation priority sequence above, preferential consideration shall be given to measures that replace the impacted functions directly and in the immediate vicinity of the impact. However, alternative compensatory mitigation within the watershed that addresses limiting factors or identified critical needs for shoreline resource conservation based on watershed or comprehensive resource management plans applicable to the area of impact may be authorized. Authorization of compensatory mitigation measures may require appropriate safeguards, terms or conditions as necessary to ensure no net loss of ecological functions.

Conclusion:

The phrase “no net loss of shoreline ecological functions necessary to sustain shoreline natural resources” captures the intent of Shoreline Management Act's environmental protection policy while also providing for carrying out the other policy interests of the SMA. Through a careful, well informed planning process and implementation of the resulting plan, local government can reasonably accommodate the full range of state and local interests in our shorelines.